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Track C - Novel research designs in epidemiology

## CDC0158 - Study of varied index points in multiplier methods for urban MSM population size estimation in Nanchang, China

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**Background:** The size of men who have sex with men (MSM) living in urban areas was unclear in the City of Nanchang, capital of China's southeast province of Jiangxi. Multiplier methods were used and two varied index points, night-bar and internet chat-room, were studied to understand their effects.

**Methods:** Sampling sources both of physical locations and of internet virtual spaces where MSM contact were mapped after a consultation with key informants in MSM community. A total of 395 subjects including 179 from physical locations and 216 from the internet were proportionately sampled and interviewed between 23rd and 30th in October 2006. A night-bar which had around 225 Nanchang urban MSM customers and an internet chat-room which had around 3331 Nanchang urban MSM visitors in the past week (from 16th to 22nd in October 2006) before interview were selected as index points respectively to calculate the multipliers, the inverse proportions of the percentage of 395 subjects' contacts.

**Results:** The multiplier with night-bar index was 3.04 (395/130) and that with internet chat-room index was 1.77 (395/223), and thus the sizes were 683 (225\*3.04) and 5900 (3331\*1.77) accordingly. Significant statistical difference between the contact numbers of subjects from varied sampling sources was found that 100 of 179 subjects from physical locations and only 30 of 216 subjects from the internet patronized the night-bar ( $\chi^2=78.12$ ,  $P<0.001$ ), and that 157 of 216 subjects from the internet and only 66 of 179 subjects from the physical locations visited the internet chat-room ( $\chi^2=51.07$ ,  $P<0.001$ ). The multipliers both of the night-bar and of the internet chat-room excluding the subjects from the sampling sources similar to index points were 7.2 (216/30) and 2.71 (179/66) respectively, and thus the sizes were 1618 (225\*7.2) and 9034 (3331\*2.71) accordingly.

**Conclusions:** The internet with broader access than the physical locations might suit for short time urban MSM size estimation and contacts from the sources similar to index points should be excluded.

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